



Day 0: Weighted Mean



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Objective

In the previous challenge, we calculated a *mean*. In this challenge, we practice calculating a *weighted mean*. Check out the [Tutorial](#) tab for learning materials and an instructional video!

Task

Given an array, X , of N integers and an array, W , representing the respective weights of X 's elements, calculate and print the weighted mean of X 's elements. Your answer should be rounded to a scale of 1 decimal place (i.e., 12.3 format).

Input Format

The first line contains an integer, N , denoting the number of elements in arrays X and W .
The second line contains N space-separated integers describing the respective elements of array X .
The third line contains N space-separated integers describing the respective elements of array W .

Constraints

- $5 \leq N \leq 50$
- $0 < x_i \leq 100$, where x_i is the i^{th} element of array X .
- $0 < w_i \leq 100$, where w_i is the i^{th} element of array W .

Output Format

Print the *weighted mean* on a new line. Your answer should be rounded to a scale of 1 decimal place (i.e., 12.3 format).

Sample Input

```
5
10 40 30 50 20
1 2 3 4 5
```

Sample Output

```
32.0
```

Explanation

We use the following formula to calculate the weighted mean:

$$m_w = \frac{\sum_{i=0}^{N-1} (x_i \times w_i)}{\sum_{i=0}^{N-1} w_i} \Rightarrow m_w = \frac{10 \times 1 + 40 \times 2 + 30 \times 3 + 50 \times 4 + 20 \times 5}{1 + 2 + 3 + 4 + 5} = \frac{480}{15} = 32.0$$



And then print our result to a scale of 1 decimal place (32.0) on a new line.

[f](#) [t](#) [in](#)Submissions: [18271](#)

Max Score: 30

Difficulty: Easy

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```
1 n = int(input())
2 X = list(map(int,input().split()))
3 W = list(map(int,input().split()))
4 weighted_mean = sum(list(map(lambda x,y: x*y, X, W)))/sum(W)
5 print(round(weighted_mean,1))
```

Line: 1 Col: 1

[Upload Code as File](#)☐ Test against custom input

Run Code

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